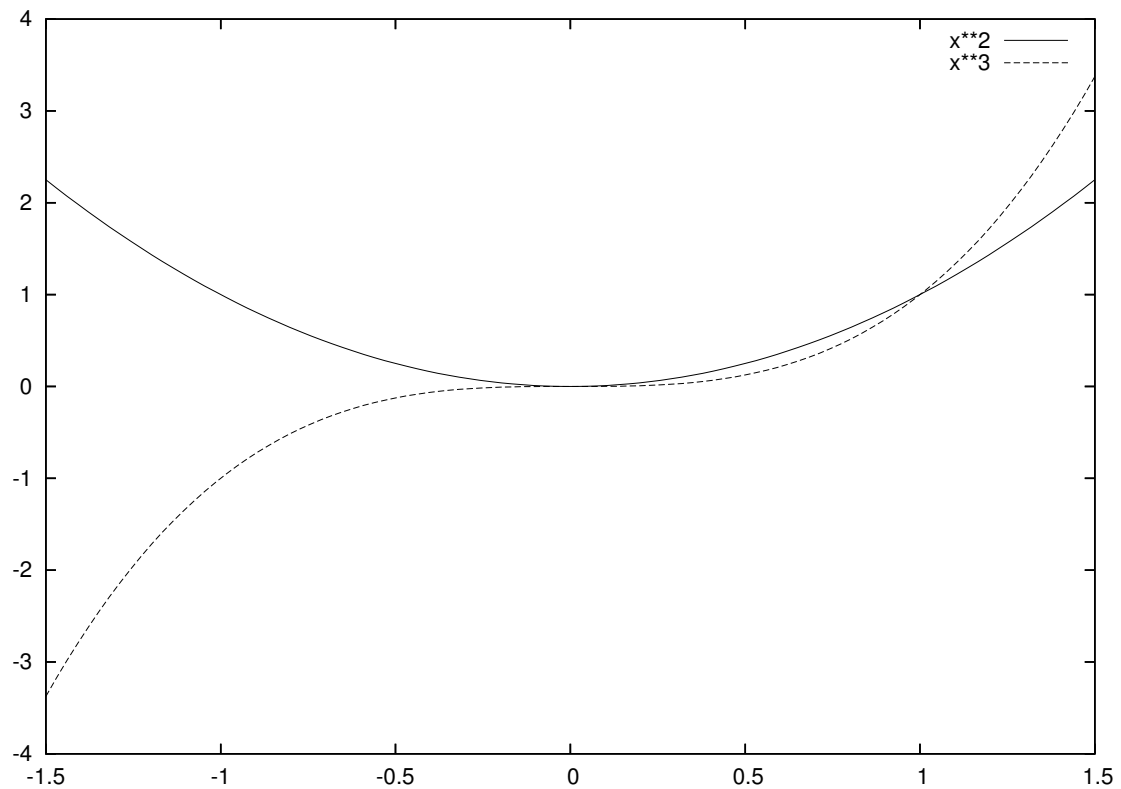


Name \_\_\_\_\_ Student Number \_\_\_\_\_

All solutions are to be presented on the paper in the space provided. The quiz is open book. You can discuss the problem with others and ask the TA questions.

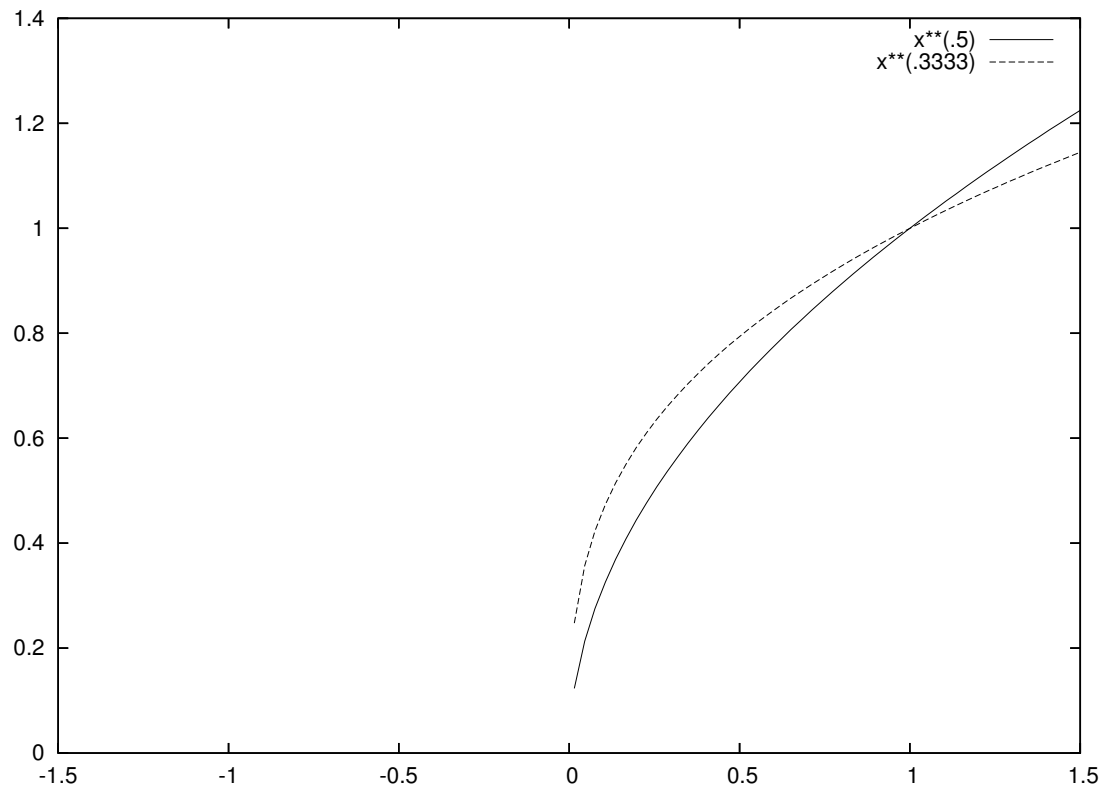
- (1) Sketch the following graphs. Use the same axis for each part. That is, part (a) on one axis, part (b) on a different axis etc. Label at least one obvious point on the graph. **Do not use a table of values**

(a)  $f(x) = x^2$  and  $f(x) = x^3$



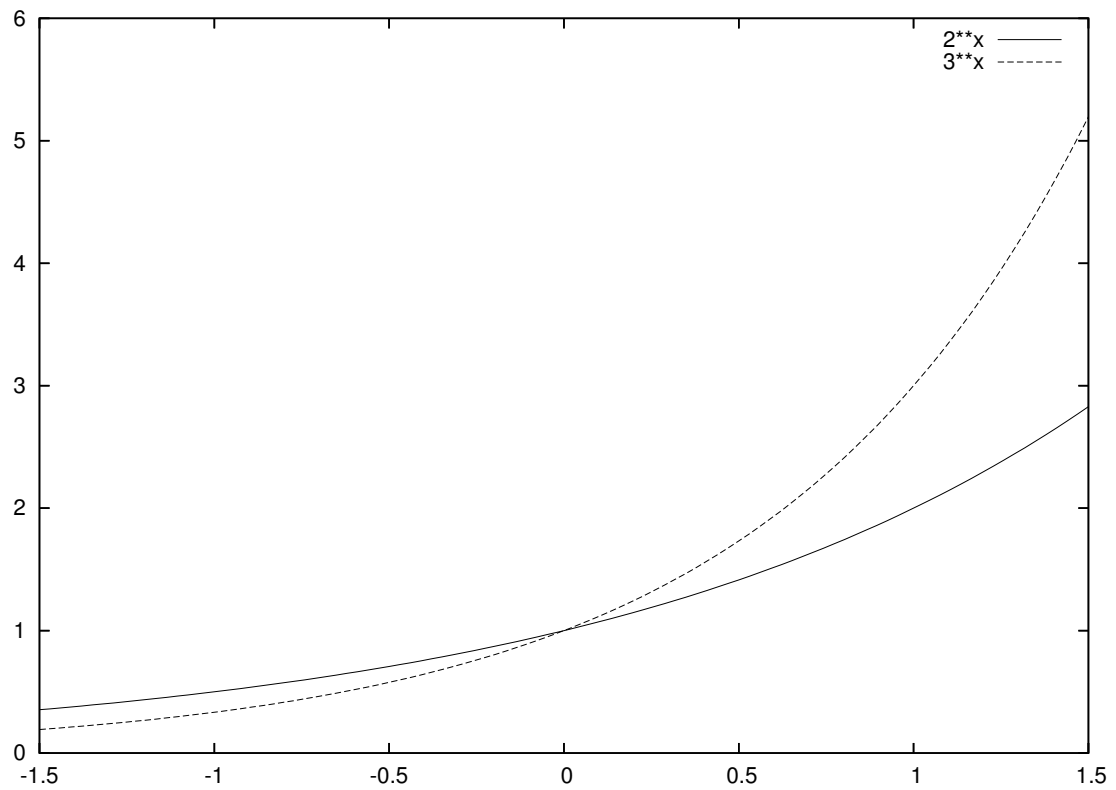
Over→

(b)  $f(x) = \sqrt{x}$  and  $f(x) = \sqrt[3]{x}$



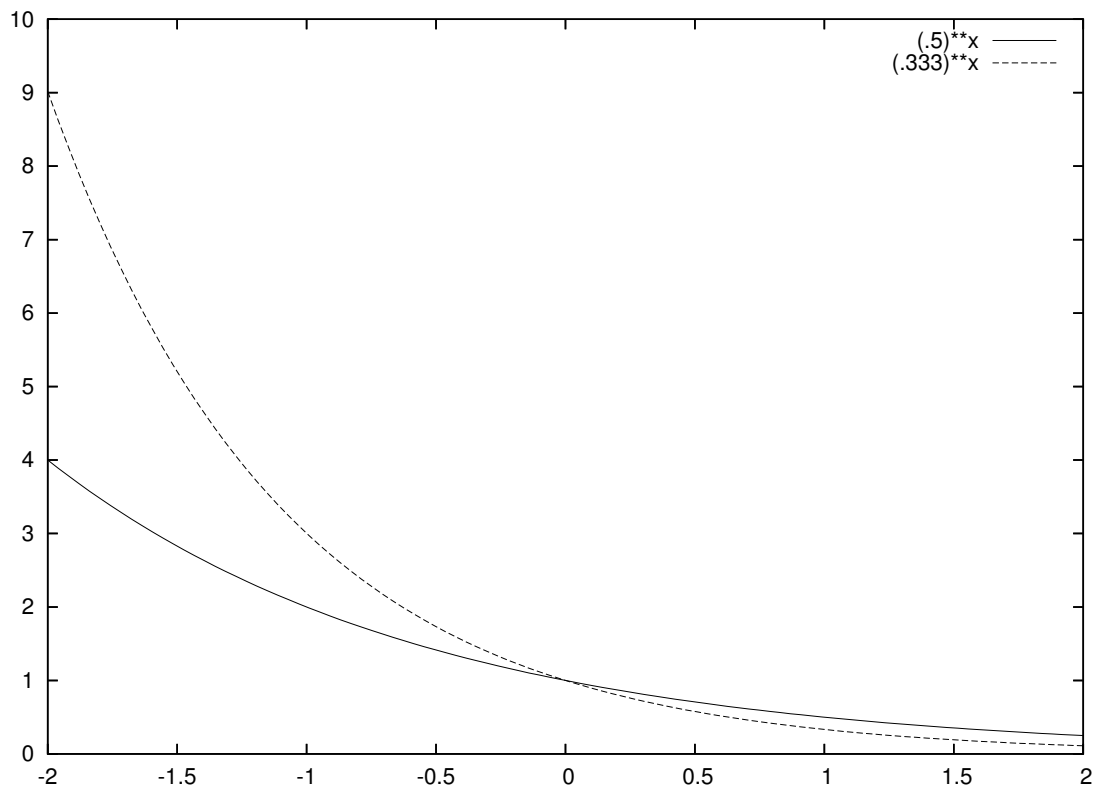
Over→

(c)  $f(x) = 2^x$  and  $f(x) = 3^x$



Over→

(d)  $f(x) = \left(\frac{1}{2}\right)^x$  and  $f(x) = \left(\frac{1}{3}\right)^x$



(2) What is the domain of  $f(x) = \frac{x}{\sqrt{x+1}}$ ?

First, the square root requires that  $x \geq -1$ . However, since the expression  $\sqrt{x+1}$  is in the denominator, it can't be zero, so the domain is  $x > -1$  or  $x \in (-1, \infty)$ .